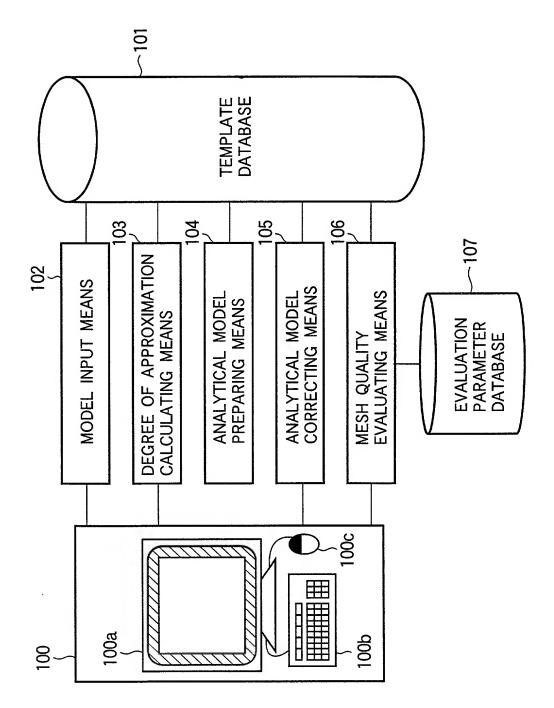
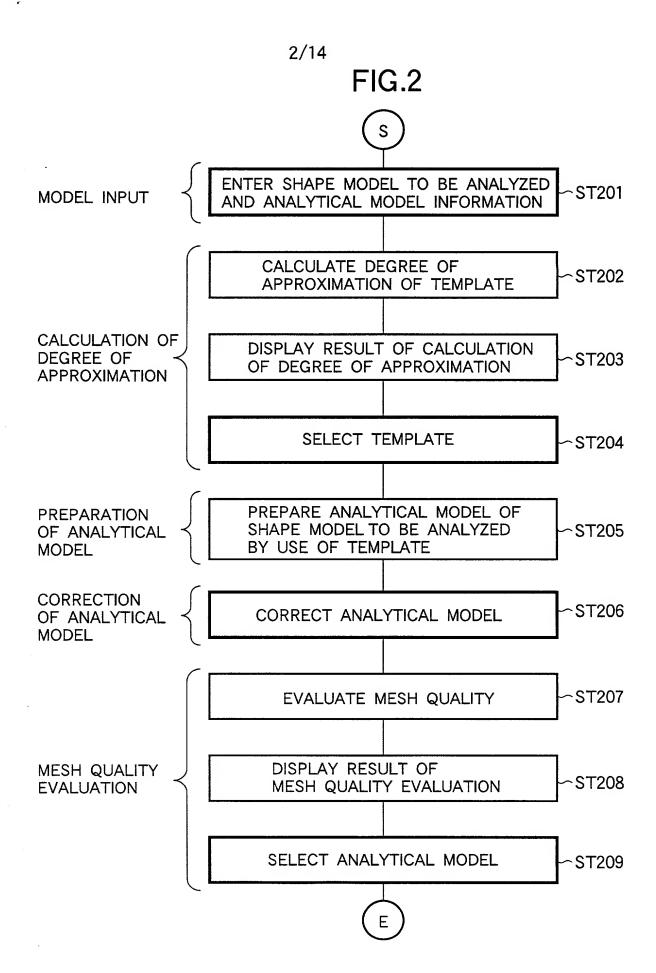
FIG.1



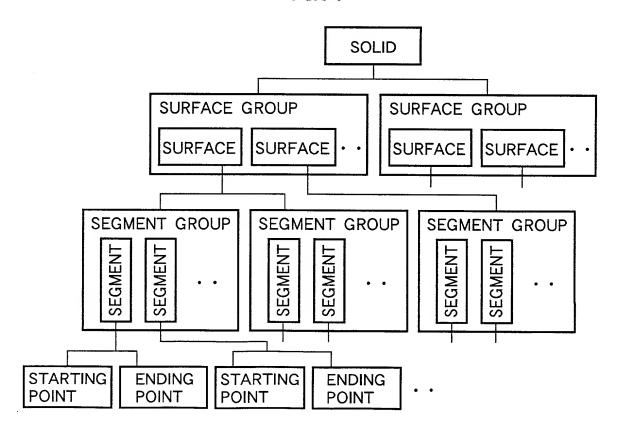


3/14

FIG.3

NO.	ANALYTICAL MODEL INFORMATION	SHAPE MODEL	ĺ	ANALYTICAL MODEL	
	· MODEL NAME · MODEL		ANALYTICAL MESH	MESH PREPARING CONDITION	ANALYTICAL CONDITION
1	CLASSIFI- CATION • AREAS OF ANALYSIS			• ELEMENT TYPE • ELEMENT SIZE • DENSITY INFOR- MATION • NUMBER OF DIVISIONS • ASSIGNING DIRECTION	• MATERIAL CONDITIONS • LOAD CONDITION • CON- STRAINT CONDITION • GEOMET- RICAL CONDITION

FIG.4



4/14

FIG.5

(a) EXAMPLE OF NODAL POINT DATA

TOTAL NUMBER OF NODAL POINTS	20			
NODAL POINT NO.	X COORDINATE VALUE	Y COORDINATE VALUE	Z COORDINATE VALUE	
1	0.0	0.0	0.0	
2	5.0	0.0	0.0	
3	0.0			

(b) EXAMPLE OF ELEMENT DATA

TOTAL NUMBER OF ELEMENTS	20				
ELEMENT NO.	NUMBER OF NODAL POINTS	ELEMENT-COMPOSING NODAL POINT NO.			
1	8	1, 2, 3, 4, 5, 6, 7, 8			
2	8	2, 9, 10, 3, 6, 11, 12, 7			
3	8				

FIG.6

NO. OF SHAPE ELEMENT TO BE ANALYZED	KIND	ELEMENT TYPE	ELEMENT SIZE
1	SOLID	HEXAHEDRON	3.0
3	SURFACE	TETRAHEDRON	2.5

FIG.7

(a) EXAMPLE OF DATA STRUCTURE

SHAPE ELEMENT NO.	KIND	LOCAL ELEMENT SIZE	ELEMENT SIZE CHANGE RATE
10	POINT	0.2	1.3

(b) EXAMPLE OF GENERATION OF TETRAHEDRON MESHES (NON-UNIFORM DENSITY)

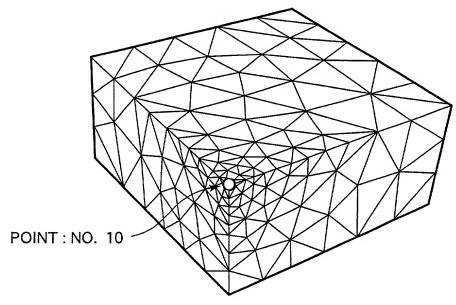


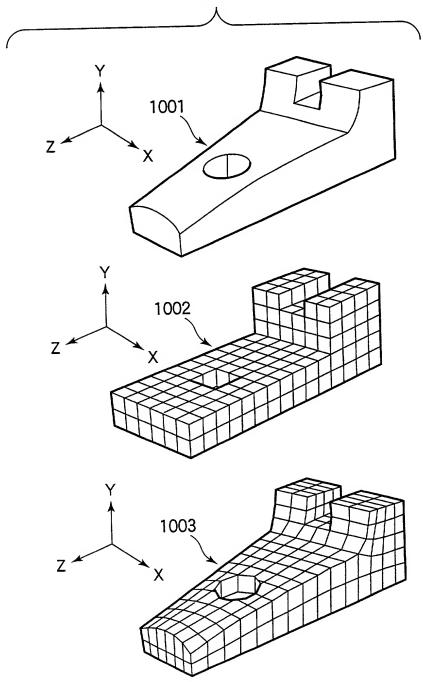
FIG.8

RIDGE NO.	NUMBER OF DIVISIONS
1	6
3	2

6/14 FIG.9

RIDGE NO.	ASSIGNING DIRECTION	
1	+x	
3	-z	

FIG.10



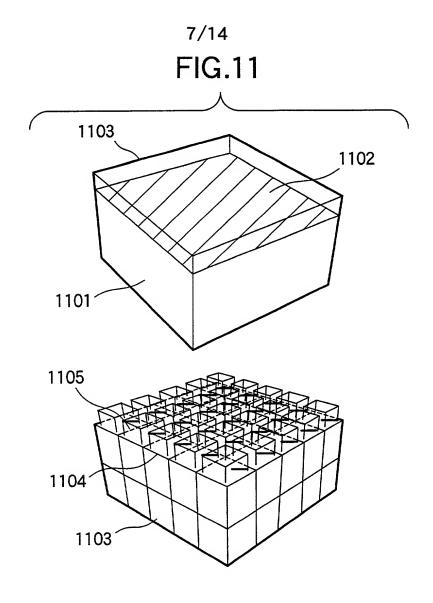


FIG.12

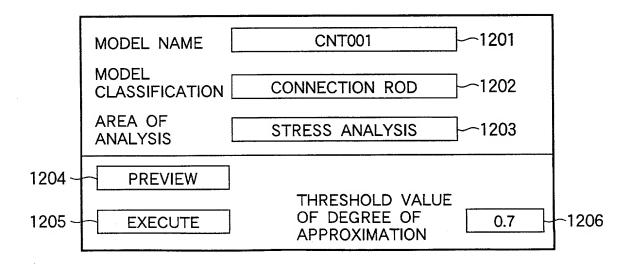
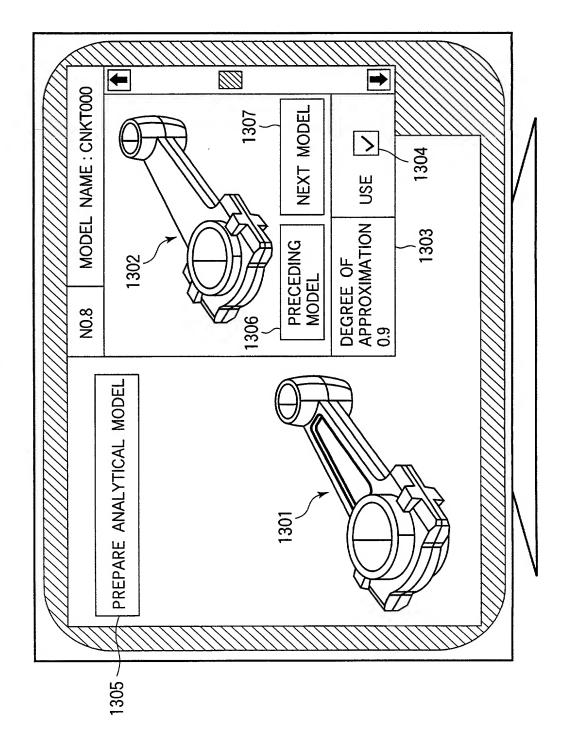


FIG.13

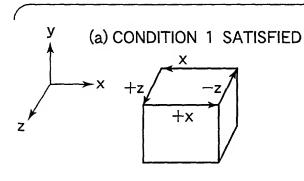


ST1410

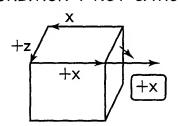
9/14 **FIG.14** ASSOCIATE TEMPLATE WITH SHAPE ELEMENTS ST1401-OF SHAPE MODEL TO BE ANALYZED COPY MESH PREPARING CONDITIONS REGISTERED ST1402-ON TEMPLATE ONTO SHAPE MODEL TO BE ANALYZED COPY ANALYZING CONDITIONS REGISTERED ON ST1403 TEMPLATE ONTO SHAPE MODEL TO BE ANALYZED ST1404 **MESH** YES TO BE PREPARED HAS NO ELEMENT TYPE OF **HEXAHEDRON?** ST1405 RIDGE NO LINE IS FULLY ST1406 ST1411 MAPPED? **PREPARE** DECIDE ASSIGNING YES DIRECTION AND NUMBER **ANALYTICAL** MESHES BY USE OF DIVISIONS OF RIDGE LINES NOT AS OF AUTOMATIC MESH PROGRAM YET ASSOCIATED CONFIRM ASSIGNING ST1407 DIRECTION ST1408 MAPPING ST1409 YES MODEL CAN BE **GENERATED?** ST1412 DECIDE NUMBER NO OF DIVISIONS CORRECT ANALYZING CONDITIONS OF SHAPE MODEL TO PREPARE HEXAHEDRON MESH ATTRIBUTES MESHES BY POWDERY FIT PROCESS

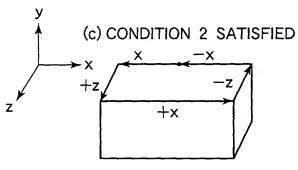
10/14

FIG.15

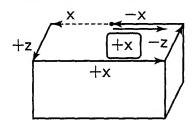


(b) CONDITION 1 NOT SATISFIED

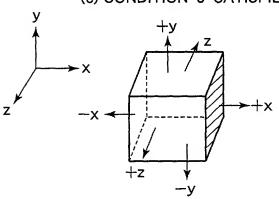




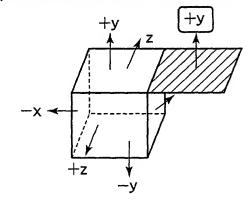
(d) CONDITION 2 NOT SATISFIED



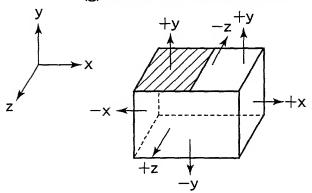
(e) CONDITION 3 SATISFIED



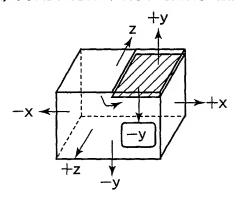
(f) CONDITION 3 NOT SATISFIED



(g) CONDITION 4 SATISFIED



(h) CONDITION 4 NOT SATISFIED



11/14 FIG.16

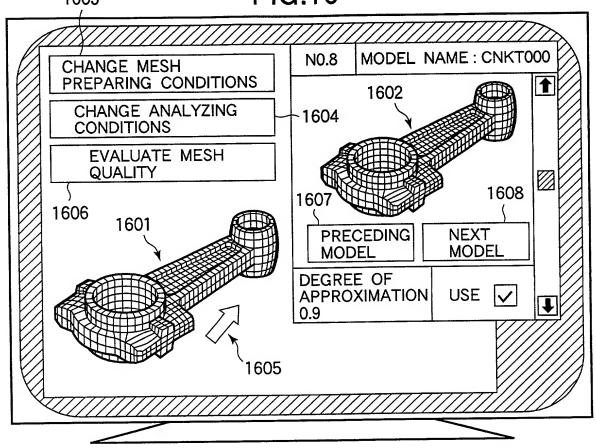
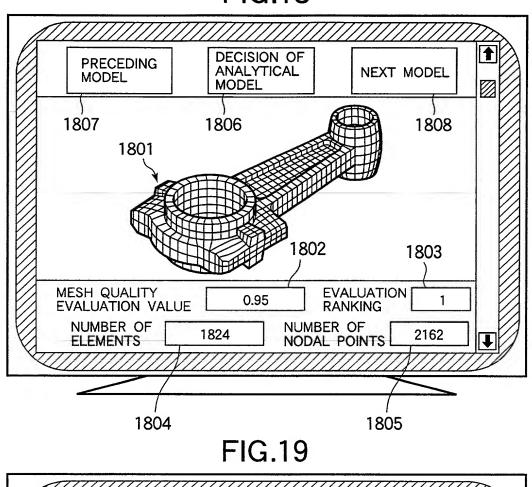
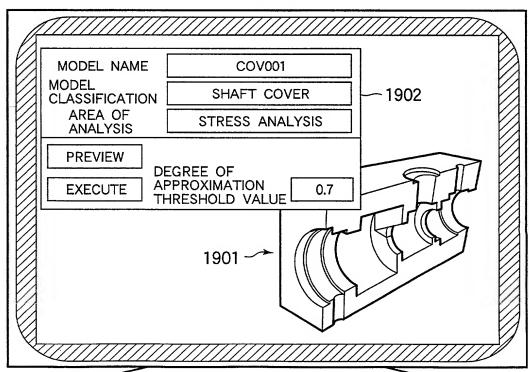


FIG.17

AREA OF ANALYSIS	MODEL CLASSIFI- CATION	DISTORTION THRESHOLD VALUE	STRETCH THRESHOLD VALUE	ELEMENT EDGE ANGLE THRESHOLD VALUE	ELEMENT SURFACE CAMBER THRESHOLD VALUE
DEFAULT	DEFAULT	0.2	NO_USE	NO_USE	NO_USE
STRESS ANALYSIS	CONNECTION ROD	0.2	0.2	160.0	NO_USE
VIBRATION ANALYSIS	ENGINE BLOCK	0.1	NO_USE	175.0	NO_USE
STRESS ANALYSIS	DEFAULT	0.2	NO_USE	NO_USE	NO_USE
STRESS ANALYSIS	SHAFT COVER	0.3	NO_USE	150.0	NO_USE

12/14 FIG.18





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-16.20

	ANALYZING CONDITION				
ANAI YTICAI MODEI	MESH PREPARING CONDITION	• ELEMENT TYPE: HEXAHEDRON	• ELEMENT TYPE: HEXAHEDRON	• ELEMENT TYPE: HEXAHEDRON	• ELEMENT TYPE: TETRAHEDRON
	ANALYTICAL MESH				
	SHAPE MODEL				
	ANALY LICAL MODEL INFORMATION	• MODEL NAME: CNKT001 • MODEL CLASSIFICATION: CONNECTION ROD • AREA OF ANALYSIS: STRESS ANALYSIS	• MODEL NAME: COV001 • MODEL CLASSIFICATION: SHAFT COVER • AREA OF ANALYSIS: STRESS ANALYSIS	• MODEL NAME: COV001 • MODEL CLASSIFICATION: SHAFT COVER • AREA OF ANALYSIS: VIBRATION ANALYSIS	• MODEL NAME: CRA001 • MODEL CLASSIFICATION: CRANK SHAFT • AREA OF ANALYSIS: STRESS ANALYSIS
	NO.	-	7	က	4

FIG.21

